PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Doss Jr. et al.	Atty. Dkt. No. PLANP039
Application No: 10/810,082	Examiner: Briney III, Walter F
Filed: March 26, 2004	Assignee: Plantronics, Inc.
Title: Adaptive Duplexing for Amplified Phone	Art Unit: 2615

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the US Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office, Fax No. (571) 273-8300 on August 13, 2007.

Signed: _____

Jung-hua Kuo

BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal from the final rejection of claims 1-27 in the above-referenced patent application. In accordance with 37 C.F.R. §1.192, this Brief, along with the Appendix, is filed in triplicate and is accompanied by the required fee.

I. Real Party In Interest

The real party in interest is Plantronics, Inc. The subject patent application was assigned from appellants to Plantronics, Inc.

II. Related Appeals and Interferences

There are currently no known appeals or interferences which may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-27 are rejected.

IV. Status of Amendments

No amendments to the claims were filed subsequent to the final rejection. Thus, the appeal is being taken on the basis of claims 1-27 as finally rejected, as presented in Appendix A submitted herewith.

V. Summary of Inventions

The inventions are generally directly to a telephone system (independent claim 1 and claims dependent therefrom), an amplified telephone (independent claim 10 and claims dependent therefrom), and an adaptive duplexing method (independent claim 19 and claims dependent therefrom). The independent claims are illustrated in FIGS. 2-3 and generally described at paragraphs [0007], [0011], and [0012].

Independent claim 1 recites a telephone system that generally includes a transmitter (e.g., a microphone 124, paragraph [0029], line 1), in communication with a transmit signal path, a receiver (e.g., speaker, paragraph [0034], third line from the end on page 13) in communication with a receive signal path, the receiver having associated therewith a receiver gain, a receiver gain detector configured to detect the receiver gain (paragraph [0035], lines 1-2; paragraph [0036], lines 3-6), the telephone system having a receiver stability level associated therewith (paragraph [0032], lines 3-5), and a controller (e.g., microprocessor unit 120, paragraph [0035], lines 1-2) in communication with the receiver gain detector, the controller being configured to selectively operate the telephone system in a full duplex mode in response to the receiver gain being approximately less than the receiver stability level (paragraph [0036], lines 1-9) and to selectively operate the telephone system in an adaptive duplex mode in response to the receiver gain being approximately above the receiver stability level (paragraph [0036], lines 9-14), the adaptive duplex mode being such that an adaptive attenuation level alternately applied on the receive signal and transmit signal paths is dependent upon the level by which the receiver gain exceeds the receiver stability level (paragraph [0037]).

Independent claim 10 recites an amplified telephone that generally includes means for detecting a receiver gain level selected by a user on the amplified telephone (paragraph [0035], lines 1-2; paragraph [0036], lines 3-6), the telephone having a receiver stability level associated therewith (paragraph [0032], lines 3-5), means for controlling the telephone to selectively operate in full duplex in response to the receiver gain level

being approximately less the receiver stability level (paragraph [0036], lines 1-9) and to selectively operate in adaptive duplex in response to the receiver gain being at least the receiver stability level (paragraph [0036], lines 9-14), the adaptive duplex being such that an adaptive attenuation level alternately applied on a receive signal path and a transmit signal path is dependent upon a level by which the receiver gain level exceeds the receiver stability level (paragraph [0037]).

Independent claim 19 recites an adaptive duplexing method that generally includes detecting a receiver gain level selected by a user on a telephone (paragraph [0035], lines 1-2; paragraph [0036], lines 3-6), the telephone having a receiver stability level associated therewith (paragraph [0032], lines 3-5), and controlling the telephone to selectively operate in full duplex in response to the receiver gain level being approximately less than the receiver stability level (paragraph [0036], lines 1-9) and to selectively operate in adaptive duplex in response to the receiver gain being at least the receiver stability level (paragraph [0036], lines 9-14), the adaptive duplex being such that an adaptive attenuation level alternately applied on a receive signal path and a transmit signal path of the telephone is dependent upon a level by which the receiver gain level exceeds the receiver stability level (paragraph [0037]).

VI. Issues

In the final rejection, the Examiner rejected claims 1-27 under 35 U.S.C. 103(a) as being unpatentable over Naddell (USPN 5,450,618) in view of Arnaud (US Pat. RE 36,934).

Accordingly, the issue on appeal is:

whether claims 1-27 are unpatentable over Naddell in view of Arnaud.

VII. Argument

A. Introduction

The inventions are generally directly to a telephone system (independent claim 1 and claims dependent therefrom), an amplified telephone (independent claim 10 and claims dependent therefrom), and an adaptive duplexing method (independent claim 19 and claims dependent therefrom). The telephone system that generally includes a transmitter in communication with a transmit signal path, a receiver in communication

with a receive signal path, a receiver gain detector configured to detect a receiver gain associated with the receiver, and a controller in communication with the receiver gain detector, the controller being configured to selectively operate the telephone system in a full or adaptive duplex mode in response to the receiver gain being approximately less than or approximately above a receiver stability level associated with the telephone system, respectively, the adaptive duplex mode being such that an adaptive attenuation level alternately applied on the receive signal and transmit signal paths is dependent upon the level by which the receiver gain exceeds the receiver stability level.

The amplified telephone generally includes means for detecting a receiver gain level selected by a user on the amplified telephone, means for controlling the telephone to selectively operate in full or adaptive duplex as generally described above.

The adaptive duplexing method generally includes detecting a receiver gain level selected by a user on a telephone, and controlling the telephone to selectively operate in full or adaptive duplex as generally described above.

B. Claims 1-27 are not Unpatentable over Naddell in view of Arnaud

Claims 1-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Naddell (USPN 5,450,618) in view of Arnaud (US Pat. RE 36,934).

Independent claim 1 generally recites a telephone system that includes a controller that selectively operates the telephone system in (a) a full duplex mode *in response to* the receiver gain being approximately less than the receiver stability level or (b) in an adaptive duplex mode *in response to* the receiver gain being approximately above the receiver stability level. In other words, the controller selectively operates the telephone system in a full or adaptive duplex mode in response to the receiver gain being approximately less than or above the receiver stability level. It is the controller that makes the selection as to operate the telephone in full versus adaptive duplex mode. As is evident, such operation of the telephone is clearly not in response to user selection of full versus half duplex mode.

In contrast, Naddell discloses a telephone system that includes a controller that operates the telephone system in a full duplex mode in response to user selection, i.e., via the mode button being depressed or not depressed (extended) by the user. See, for example, the volume/mode button 106 in FIG. 1, the volume/model button 202 in FIG. 2;

the mode selector 306 in FIG. 3, and block 403 ("Set mode = full duplex") extending from the "Yes" path from block 402 ("Mode Button in?") in FIG. 4. See also associated text in the specification, for example,

With respect to the full duplex mode, Naddell's controller operates the telephone system in a full duplex mode not only in response to the user depressing the mode button 106, but also ***regardless of the volume level setting*** (e.g., the receiver gain, as recited in independent claim 1), and thus certainly not in response to the receiver gain being approximately less than the receiver stability level, as generally recited in independent claim 1.

Naddell expressly states that "When in full duplex mode, such as when making a telephone call, the volume level is automatically set at a predetermined level ***regardless of the volume level setting*** to provide telephone style calling convenience." (Col. 2, lines 44-48, emphasis added). As another example, Naddell further states that "When the button 106 is depressed (the staff is not exposed), a full duplex mode of operation is selected ... ***regardless of the rotation position of the button***." (Col. 3, lines 5-9, emphasis added). See also col. 3, lines 49-53: "When the switch staff is concealed (switch pushed in), the communication *unit is set to* the full-duplex mode of operation 403. In the full duplex mode, the audio level is set to a predetermined low level ***regardless of the volume setting on the switch 404***" (emphasis added).

As is evident, Naddell's controller operates the telephone system in a full duplex mode purely and exclusively *in response to the mode button being depressed by the user*, and not in response to the receiver gain, much less in response to the receiver gain being approximately less than the receiver stability level.

With respect to the half duplex mode, Naddell's controller similarly operates the telephone system in a half duplex mode purely and exclusively in response to the mode button being not depressed (i.e., in an extended position) by the user, and not in response to the receiver gain being approximately above the receiver stability level. For example, Naddell states that "When operating in a half duplex mode, ... the volume level setting is adjustable [by the user] ...." (Col. 2, lines 48-52). As another example, Naddell further states that "When the volume/mode button 106 is in the extended position (the staff is

exposed), a half duplex mode of operation is selected. ...." (Col. 2, line 67 – col. 3, line 5). See also col. 3, lines 59-63: "When the switch staff is exposed, the communication unit is *set to the half-duplex mode of operation 406*."

Furthermore, it is only *after* the half duplex mode is enabled that the controller even monitors the volume control rotary switch to determine the volume setting. See, for example, col. 3, lines 61-68, emphasis added: "*After* enabling the half duplex mode, the communication unit monitors the volume on/off control rotary switch to determine the volume setting or whether the communication unit is off 407. .... If the communication unit is on, it determines the volume level setting based on the position of the switch 408."

The addition of the secondary reference Arnaud does not make up for the deficiencies of Naddell. Thus because neither Naddell nor Arnaud discloses or suggests a controller that selectively operates the telephone system in a full duplex or adaptive duplex mode in response to the receiver gain being approximately less than or above the receiver stability level as generally recited in independent claim 1, even if the half duplex system of Arnaud were incorporated into the telephone system of Naddell, the resulting system would not read on the claimed system of independent claim 1.

In the final Office Action, the Examiner contends that the applicants' interpretation of the button 106/202 and its position "has excised the actual changes in parameters that occur in response to the position of button 106/202." (Final Office Action, page 8, last paragraph). However, as recited in independent claim 1 and as discussed above, the controller *selectively* operates the telephone system in a full duplex mode in response to the receiver gain being approximately less than the receiver stability level and selectively operates the telephone system in an adaptive duplex mode in response to the receiver gain being approximately above the receiver stability level. In other words, when the controller *determines* that the receiver gain is approximately less than the receiver stability level, the controller selectively operates the telephone system in a full duplex mode. Similarly, when the controller *determines* that the receiver gain is approximately above the receiver stability level, the controller selectively operates the telephone system in a half duplex mode.

The Examiner also states in the final Office Action that "the position of button 106/202 is not just related to an arbitrary selection between full and half-duplex telephony, but to a selection between low and high-volume level telephony, where the desired volume level selected determines the appropriate mode of operation – i.e. half and full-duplex telephony." (Final Office Action, page 9, lines 4-7).

In other words, the Examiner contends that a user makes a selection between low and high-volume level telephony (and not between half and full-duplex modes). However, low volume selection results in full duplex operation (and never half duplex operation) while high volume selection results in half duplex operation (and never full duplex operation). As such, the user selection between low and high-volume level telephony directly determines half and full-duplex mode. No matter the characterization as between full vs. half duplex or between high vs. low volume, in the end, it is the user making the selection between full or half duplex operation.

Independent claims 10 and 19 recite elements similar to those discussed above with reference to independent claim 1. Thus the discussion above similarly applies to independent claims 10 and 19 and is not repeated herein for purposes of clarity.

In view of the foregoing, Nadell in view of Arnaud does not render the claimed inventions unpatentable under 35 U.S.C. §103(a).

Reversal of the rejection of dependent claims 1-27 is therefore requested.

D. Conclusion

In view of the foregoing, reversal of the rejection of claims 1-27 is requested.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the

Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 02-1757).

Respectfully submitted,

Dated: August 13, 2007

By: _____

Jung-hua Kuo, Reg. No. 41,918 for
Peter Hsieh, Reg. No. 44,780
345 Encinal Street
P.O. Box 635
Santa Cruz, CA 95060-0635
Telephone: (831) 458-7758

Attached: Appendix A (Copy of claims 1-27 involved in the subject Appeal; 5 pages)

Appendix A
Pending Claims 1-27

1. A telephone system, comprising:

a transmitter in communication with a transmit signal path;

a receiver in communication with a receive signal path, the receiver having associated therewith a receiver gain;

a receiver gain detector configured to detect the receiver gain, the telephone system having a receiver stability level associated therewith; and

a controller in communication with the receiver gain detector, the controller being configured to selectively operate the telephone system in a full duplex mode in response to the receiver gain being approximately less than the receiver stability level and to selectively operate the telephone system in an adaptive duplex mode in response to the receiver gain being approximately above the receiver stability level, the adaptive duplex mode being such that an adaptive attenuation level alternately applied on the receive signal and transmit signal paths is dependent upon the level by which the receiver gain exceeds the receiver stability level.

2. The telephone system of claim 1, wherein the attenuation level alternately applied on the receive signal and transmit signal paths is approximately equal to the level by which the receiver gain exceeds the receiver stability level.

3. The telephone system of claim 1, wherein the receiver gain detector is configured to monitor the receiver gain throughout a telephone call and the controller adapts the attenuation level in accordance with the monitored receiver gain.

4. The telephone system of claim 1, further comprising a volume control by which a user may select a volume setting and a boost function selector by which the user may activate and deactivate a boost function, wherein the receiver gain detector is in communication with the volume control and the boost function selector and wherein the receiver gain is a function of the volume setting and the status of the boost function.

5. The telephone system of claim 1, wherein when the controller is operating in the adaptive duplex mode, the controller is further configured to switch between an active receive mode during which the controller applies the adaptive attenuation level on the transmit signal path and an active transmit mode during which the controller applies the adaptive attenuation level on the receive signal path.

6. The telephone system of claim 5, further comprising a transmit signal detector configured to detect a transmit path signal level on the transmit signal path, the transmit signal detector being in communication with the controller, wherein when in the adaptive duplex mode, the controller is alternately in the active receive mode and the active transmit mode depending upon the transmit path signal level.

7. The telephone system of claim 6, wherein when in the adaptive duplex mode, the controller is configured to switch to the active transmit mode when the transmit path signal level is at least equal to a predefined transmit signal threshold and to switch to the active receive mode when the transmit path signal level is less than the transmit signal threshold.

8. The telephone system of claim 1, wherein the full duplex mode is such that the controller applies zero attenuation to signals on the receive signal path and to signals on the transmit signal path.

9. The telephone system of claim 1, wherein the receiver stability level is between approximately 30 and 35 dB of gain.

10. An amplified telephone, comprising:

means for detecting a receiver gain level selected by a user on the amplified telephone, the telephone having a receiver stability level associated therewith; and

means for controlling the telephone to selectively operate in full duplex in response to the receiver gain level being approximately less the receiver stability level and to selectively operate in adaptive duplex in response to the receiver gain being at least the receiver stability level, the adaptive duplex being such that an adaptive attenuation level alternately applied on a receive signal path and a transmit signal path is dependent upon a level by which the receiver gain level exceeds the receiver stability level, the controlling means being in communication with the receiver gain detector.

11. The amplified telephone of claim 10, wherein the attenuation level alternately applied on the receive and transmit signal paths is approximately equal to the level by which the receiver gain exceeds the receiver stability level.

12. The amplified telephone of claim 10, wherein the means for detecting monitors the receiver gain throughout a call on the amplified telephone and the means for controlling adapts the attenuation level in accordance with the monitored receiver gain level.

13. The amplified telephone of claim 10, wherein the means for detecting detects the receiver gain level as a function of a user-selected volume setting and a user-selected boost function status.

14. The amplified telephone of claim 10, wherein the controlling means switches between an active receive mode and an active transmit mode when operating the telephone in adaptive duplex, the active receive mode being that the controlling means applies the adaptive attenuation level on transmit signals on the transmit signal path and the active transmit mode being that the controlling means applies the adaptive attenuation level on receive signals on the receive signal path.

15. The amplified telephone of claim 14, further comprising a transmit signal detecting means for detecting a transmit path signal level on the transmit signal path, the transmit signal detecting means being in communication with the controlling means, wherein when operating in adaptive duplex, the controlling means is alternately in the active receive mode and the active transmit mode depending upon the transmit path signal level.

16. The amplified telephone of claim 15, wherein when in adaptive duplex, the controlling means is configured to switch to the active transmit mode when the transmit path signal level is at least equal to a predefined transmit signal threshold and to switch to the active receive mode when the transmit path signal level is less than the transmit signal threshold.

17. The amplified telephone of claim 10, wherein operating in full duplex is such that the controlling means applies zero attenuation to signals on the receive signal path and to signals on the transmit signal path.

18. The amplified telephone of claim 10, wherein the receiver stability level is between approximately 30 and 35 dB of gain.

19. An adaptive duplexing method, comprising:

detecting a receiver gain level selected by a user on a telephone, the telephone having a receiver stability level associated therewith; and

controlling the telephone to selectively operate in full duplex in response to the receiver gain level being approximately less than the receiver stability level and to selectively operate in adaptive duplex in response to the receiver gain being at least the receiver stability level, the adaptive duplex being such that an adaptive attenuation level alternately applied on a receive signal path and a transmit signal path of the telephone is dependent upon a level by which the receiver gain level exceeds the receiver stability level.

20. The method of claim 19, wherein the attenuation level alternately applied on the receive signal and transmit signal paths is approximately equal to the level by which the receiver gain exceeds the receiver stability level.

21. The method of claim 19, wherein the detecting includes monitoring the receiver gain throughout a call on the telephone and the controlling includes adapting the attenuation level in accordance with the monitored receiver gain level.

22. The method of claim 19, wherein the detecting includes detecting the receiver gain level as a function of a user-selected volume setting and a user-selected boost function status.

23. The method of claim 19, wherein the controlling includes switching between an active receive mode and an active transmit mode when operating the telephone in adaptive duplex, the active receive mode being that the controlling includes applying the adaptive attenuation level on transmit signals on the transmit signal path and the active transmit mode being that the controlling includes applying the adaptive attenuation level on receive signals on the receive signal path.

24. The method of claim 23, further comprising detecting a transmit path signal level on the transmit signal path, wherein when in adaptive duplex, the controlling includes alternating between the active receive mode and the active transmit mode depending upon the transmit path signal level.

25. The method of claim 24, wherein when in the adaptive duplex, the controlling includes switching to the active transmit mode when the transmit path signal level is at least equal to a predefined transmit signal threshold and switching to the active receive mode when the transmit path signal level is less than the transmit signal threshold.

26. The method of claim 19, wherein when in full duplex, the controlling includes applying zero attenuation on the receive signal path and the transmit signal path.

27. The method of claim 19, wherein the receiver stability level is between approximately 30 and 35 dB of gain.